

# EXHIBIT B

**UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS**

SINGULAR COMPUTING LLC,

Plaintiff,

v.

GOOGLE LLC,

Defendant.

Civil Action No. 1:19-cv-12551-FDS

**PLAINTIFF'S THIRD SET OF INTERROGATORIES [NOS. 12-20]**

Under Rules 26 and 33 of the Federal Rules of Civil Procedure, Plaintiff, Singular Computing LLC ("Singular"), hereby submits these interrogatories to Defendant, Google LLC ("Google").

Pursuant to Federal Rules of Civil Procedure 33(b)(2), Defendant must answer this interrogatory within 30 days. Pursuant to Federal Rule of Civil Procedure 33(b)(3), Defendant must answer each interrogatory separately and fully in writing and under oath, applying the Definitions and following the Instructions set forth below.

**DEFINITIONS**

1. All Definitions and rules of construction incorporate the obligations set forth in L.R. 26.
2. "Accused Products" means all accused products, computer systems, devices, and other hardware or software identified in Plaintiff's Amended Complaint (Dkt. No. 37) and in Plaintiff's Infringement Contentions, including without limitation at least:
  - a. Google Cloud Tensor Processing Unit Version 2 ("TPU v2"), including software that runs workloads on TPU v2, including TensorFlow;

### **INTERROGATORIES**

12. Identify and describe the layout, physical structure, and contents of each of the data centers referenced in Paragraph 26 of Google LLC's Amended Answer and Affirmative Defenses to Plaintiff Singular Computing LLC's Amended Complaint (ECF No. 57). If there are additional Google data centers that make use of any of the Accused Products and that are not referenced in the above documents, identify and describe the layout, physical structure, and contents of these data centers as well. Your answer should include an identification of all relevant documents, and the identity of the person(s) most knowledgeable.

13. Identify the cost to design, build, and operate each of the data centers referenced in Paragraph 26 of Google LLC's Amended Answer and Affirmative Defenses to Plaintiff Singular Computing LLC's Amended Complaint (ECF No. 57), and any other data centers that contain or utilize any of the Accused Products. Your answer should include an identification of all relevant documents, and the identity of the person(s) most knowledgeable.

14. Identify and describe the amount of any costs or expenses incurred or investments made by You in producing, creating, developing, or otherwise commercializing the Accused Products, and identify and describe any anticipated or actual return on these investments or expenditures in terms of market share, sales, brand recognition, revenues, profits, customers, or other business objectives, including any projections or forecasts of the same.

15. Identify every product, service, system, and method of or from a third party, including the identity of each said third party, that You have used in any way in connection with the design, development, implementation, testing, management, and operation of the Accused Products.

16. Identify any products or processes that You contend are acceptable non-infringing alternatives to the Accused Products, describing specifically:

- a. The nature of each alleged non-infringing alternative;
- b. Which claim elements You contend are absent from each alleged non-infringing alternative and Your reasons and bases for contending such claim elements are absent;
- c. The reasons and bases for Your contention that each alleged non-infringing alternative was an acceptable non-infringing alternative;
- d. The date you contend the alleged non-infringing alternative was available to you and the reasons and bases for your contentions;
- e. The time you contend would be associated with the development of the alleged non-infringing alternative and the reasons and bases for your contention;
- f. The cost you contend would be associated with implementing the alleged non-infringing alternative and the reasons and bases for your contention;
- g. The identify of any product, service, or other commercially available application, whether made by you or any other party, than contains the alleged non-infringing alternative; and

h. The reasons you did not incorporate or implement the alleged non-infringing alternative.

17. Identify any competing products, services, applications, or tools that You believe provide or enable functionalities similar to those identified in Plaintiff's Infringement Contentions, including but not limited to the ability to perform training and/or inference on neural models.

18. Describe the identity, content, and interpretation of all licenses, technology agreements, authorizations to use, or other such transfer of rights agreements, including but not limited to patent and/or software licenses:

- a. That you have produced or identified in this case;
- b. That pertain to technology similar (in part or in full) to the Patents-in-suit; or
- c. That you contend are comparable to a license that you would have taken in a hypothetical negotiation in this Case.

To guide you in your response, your answer should disclose, for each such license, at least the following information: (i) the names of all parties; (ii) the royalty rate; (iii) the royalty base; (iv) the term; (v) all license fees (e.g. technology access fees); (vi) the technology at issue; (vii) the patent numbers for each patent covered by the license; (viii) the total amount of money paid under the license; (ix) whether the license was paid as a lump-sum or as a running royalty; (x) whether it was assumed that the patents were infringed and valid; and (xi) whether there were cross-licenses for any patents and, if so, how each cross-license impacted items (ii), (iii), (v), (viii). Your description must also include all grounds for your contention that the license is comparable to what the parties would have agreed to in the hypothetical negotiation in this case.

19. Identify and describe any analysis or calculations of financial benefits of any kind, (including gross and net revenue and profits, return on investment, cost savings, customer retention and/or any other benefits) conducted by or for You, relating to implementing each of the functionalities identified in Plaintiff's Infringement Contentions, including but not limited to: (i) the use of the BF16 number format within the TPU; (ii) the use of the MXU for matrix multiplication within the MXU; (iii) the use of the Core Sequencer within the TPU; (vi) the use of the VPU within the TPU. Your answer should disclose, in particular, any analysis or calculations of financial benefits of any kind that relate to comparisons between the use of the BF16 number format and the use of alternative number formats, including but not limited to FP32 and int8. Your answer should further disclose any analysis or calculations of financial benefits of any kind that relate to comparisons between the use of the Accused Products for training and/or inference and (i) the use of the Google TPU v1 for training and/or inference; and (ii) the use of other products for training and/or inference, including but not limited to CPUs and GPUs. Further, identify every person who participated in or conducted such analysis identified above.

20. Identify and describe any surveys or other customer analyses, prepared by You that identify or sought to identify customer preference information, desired features, or any other information related to the functionalities identified in Plaintiff's Infringement Contentions, including but not limited to: (i) the use of the BF16 number format within the TPU; (ii) the use of the MXU for matrix multiplication within the MXU; (iii) the use of the Core Sequencer within the TPU; (vi) the use of the VPU within the TPU. Your answer should disclose, in particular, any surveys or other customer analyses, prepared by You that identify or sought to identify customer preference

information, desired features, or any other information that relate to comparisons between the use of the BF16 number format and the use of alternative number formats, including but not limited to FP32 and int8. Your answer should further disclose any surveys or other customer analyses, prepared by You that identify or sought to identify customer preference information, desired features, or any other information that relate to comparisons between the use of the Accused Products for training and/or inference and (i) the use of the Google TPU v1 for training and/or inference; and (ii) the use of other products for training and/or inference, including but not limited to CPUs and GPUs. Further, identify every person who participated in or conducted such analysis identified above.

Dated: April 7, 2021

/s/ Paul J. Hayes

Paul J. Hayes (BBO #227000)  
Matthew D. Vella (BBO #660171)  
Kevin Gannon (BBO #640931)  
Daniel McGonagle (BBO #690084)  
Michael J. Ercolini (*pro hac vice*)  
**PRINCE LOBEL TYE LLP**  
One International Place, Suite 3700  
Boston, MA 02110  
Tel: (617) 456-8000  
Email: phayes@princelobel.com  
Email: mvella@princelobel.com  
Email: kgannon@princelobel.com  
Email: dmcgonagle@princelobel.com  
Email: mercolini@princelobel.com

ATTORNEYS FOR THE PLAINTIFF

CERTIFICATE OF SERVICE

I certify that on April 7, 2021, I served this document on Defendant by causing a copy to be sent via electronic mail to its counsel of record.

/s/ Daniel McGonagle